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RAW SEQUENCE LISTING DATE: 04/26/2002
PATENT APPLICATION: US/09/942,090 TIME: 14:24:43

Input Set : N:\Crf3\RULE60\09942090.raw
Output Set: N:\CRF3\04262002\I942090.raw

1 <110> APPLICANT: Case, Casey C.
2 Zhang, Lei
3 Sangamo Biosciences, Inc.
4 <120> TITLE OF INVENTION: Functional Genomics Using Zinc Finger Proteins
5 <130> FILE REFERENCE: 019496-002000US
6 <140> CURRENT APPLICATION NUMBER: 09/942,090
7 <141> CURRENT FILING DATE: 2001-08-28
9 <150> PRIOR APPLICATION NUMBER: 09/395,448
10 <151> PRIOR FILING DATE: 1999-09-14
12 <150> PRIOR APPLICATION NUMBER: 09/229,007
13 <151> PRIOR FILING DATE: 1999-01-12
14 <150> PRIOR APPLICATION NUMBER: 09/229,037
15 <151> PRIOR FILING DATE: 1999-01-12
16 <160> NUMBER OF SEQ ID NOS: 23
17 <170> SOFTWARE: PatentIn Ver. 2.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 25
21 <212> TYPE: PRT
22 <213> ORGANISM: Artificial Sequence
23 <220> FEATURE:
24 <223> OTHER INFORMATION: Description of Artificial Sequence: exemplary motif
25 of C2H2 class of zinc finger proteins (ZFP)
W--> 26 <221> NAME/KEY: MOD_RES
27 <222> LOCATION: (2)..(3)
28 <223> OTHER INFORMATION: Xaa = any amino acid
W--> 29 <221> MOD_RES
30 <222> LOCATION: (4)..(5)
31 <223> OTHER INFORMATION: Xaa = any amino acid, may be present or absent
W--> 32 <221> MOD_RES
33 <222> LOCATION: (7)..(18)
34 <223> OTHER INFORMATION: Xaa = any amino acid
W--> 35 <221> MOD_RES
36 <222> LOCATION: (20)..(22)
37 <223> OTHER INFORMATION: Xaa = any amino acid
W--> 38 <221> MOD_RES
39 <222> LOCATION: (23)..(24)
40 <223> OTHER INFORMATION: Xaa = any amino acid, may be present or absent
W--> 41 <400> 1
W--> 42 Cys Xaa Xaa Xaa Xaa Cys Xaa
43 1 5 10 15
W--> 44 Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His
45 20 25
47 <210> SEQ ID NO: 2

ENTER

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Input Set : N:\Crf3\RULE60\09942090.raw
Output Set: N:\CRF3\04262002\I942090.raw

48 <211> LENGTH: 10
49 <212> TYPE: DNA
50 <213> ORGANISM: Artificial Sequence
51 <220> FEATURE:
52 <223> OTHER INFORMATION: Description of Artificial Sequence:ZFP target site
53 with two overlapping D-able subsites
W--> 54 <221> NAME/KEY: modified_base
55 <222> LOCATION: (1)..(2)
56 <223> OTHER INFORMATION: n = g, a, c or t
W--> 57 <221> modified_base
58 <222> LOCATION: (5)
59 <223> OTHER INFORMATION: n = g, a, c or t
W--> 60 <221> modified_base
61 <222> LOCATION: (8)
62 <223> OTHER INFORMATION: n = g, a, c or t
W--> 63 <221> modified_base
64 <222> LOCATION: (9)
65 <223> OTHER INFORMATION: n = a, c or t; if g, then position 10 cannot be g
66 or t
W--> 67 <400> 2
W--> 68 nngkngknnn 10
70 <210> SEQ ID NO: 3
71 <211> LENGTH: 10
72 <212> TYPE: DNA
73 <213> ORGANISM: Artificial Sequence
74 <220> FEATURE:
75 <223> OTHER INFORMATION: Description of Artificial Sequence:ZFP target site
76 with three overlapping D-able subsites
W--> 77 <221> NAME/KEY: modified_base
78 <222> LOCATION: (1)..(2)
79 <223> OTHER INFORMATION: n = g, a, c or t
W--> 80 <221> modified_base
81 <222> LOCATION: (5)
82 <223> OTHER INFORMATION: n = g, a, c or t
W--> 83 <221> modified_base
84 <222> LOCATION: (8)
85 <223> OTHER INFORMATION: n = g, a, c or t
W--> 86 <400> 3
W--> 87 nngkngkngk 10
89 <210> SEQ ID NO: 4
90 <211> LENGTH: 5
91 <212> TYPE: PRT
92 <213> ORGANISM: Artificial Sequence
93 <220> FEATURE:
94 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
95 <400> SEQUENCE: 4
96 Asp Gly Gly Gly Ser
97 1 5
99 <210> SEQ ID NO: 5

RAW SEQUENCE LISTING

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Input Set : N:\Crf3\RULE60\09942090.raw
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100 <211> LENGTH: 5
101 <212> TYPE: PRT
102 <213> ORGANISM: Artificial Sequence
103 <220> FEATURE:
104 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
105 <400> SEQUENCE: 5
106 Thr Gly Glu Lys Pro
107 1 5
109 <210> SEQ ID NO: 6
110 <211> LENGTH: 9
111 <212> TYPE: PRT
112 <213> ORGANISM: Artificial Sequence
113 <220> FEATURE:
114 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
115 <400> SEQUENCE: 6
116 Leu Arg Gln Lys Asp Gly Glu Arg Pro
117 1 5
119 <210> SEQ ID NO: 7
120 <211> LENGTH: 4
121 <212> TYPE: PRT
122 <213> ORGANISM: Artificial Sequence
123 <220> FEATURE:
124 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
125 <400> SEQUENCE: 7
126 Gly Gly Arg Arg
127 1
129 <210> SEQ ID NO: 8
130 <211> LENGTH: 5
131 <212> TYPE: PRT
132 <213> ORGANISM: Artificial Sequence
133 <220> FEATURE:
134 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
135 <400> SEQUENCE: 8
136 Gly Gly Gly Gly Ser
137 1 5
139 <210> SEQ ID NO: 9
140 <211> LENGTH: 8
141 <212> TYPE: PRT
142 <213> ORGANISM: Artificial Sequence
143 <220> FEATURE:
144 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
145 <400> SEQUENCE: 9
146 Gly Gly Arg Arg Gly Gly Ser
147 1 5
149 <210> SEQ ID NO: 10
150 <211> LENGTH: 9
151 <212> TYPE: PRT
152 <213> ORGANISM: Artificial Sequence
153 <220> FEATURE:

RAW SEQUENCE LISTING

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Input Set : N:\Crif3\RULE60\09942090.raw
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154 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
155 <400> SEQUENCE: 10
156 Leu Arg Gln Arg Asp Gly Glu Arg Pro
157 1 5
159 <210> SEQ ID NO: 11
160 <211> LENGTH: 12
161 <212> TYPE: PRT
162 <213> ORGANISM: Artificial Sequence
163 <220> FEATURE:
164 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
165 <400> SEQUENCE: 11
166 Leu Arg Gln Lys Asp Gly Gly Ser Glu Arg Pro
167 1 5 10
169 <210> SEQ ID NO: 12
170 <211> LENGTH: 16
171 <212> TYPE: PRT
172 <213> ORGANISM: Artificial Sequence
173 <220> FEATURE:
174 <223> OTHER INFORMATION: Description of Artificial Sequence:linker
175 <400> SEQUENCE: 12
176 Leu Arg Gln Lys Asp Gly Gly Ser Gly Gly Ser Glu Arg Pro
177 1 5 10 15
179 <210> SEQ ID NO: 13
180 <211> LENGTH: 97
181 <212> TYPE: PRT
182 <213> ORGANISM: Artificial Sequence
183 <220> FEATURE:
184 <223> OTHER INFORMATION: Description of Artificial Sequence:ZFP sequence in
185 control construct
186 <400> SEQUENCE: 13
187 Val Pro Gly Lys Lys Gln His Ile Cys His Ile Gln Gly Cys Gly
188 1 5 10 15
189 Lys Val Tyr Gly Gly His Asp Thr Val Val Gly His Leu Arg Trp His
190 20 25 30
191 Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly Lys Arg
192 35 40 45
193 Phe Thr Ala Ala Asp Glu Val Gly Leu His Lys Arg Thr His Thr Gly
194 50 55 60
195 Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met Leu Val
196 65 70 75 80
197 Val Ala Thr Gln Leu His Ile Lys Thr His Gln Asn Lys Lys Gly Gly
198 85 90 95
199 Ser
201 <210> SEQ ID NO: 14
202 <211> LENGTH: 292
203 <212> TYPE: DNA
204 <213> ORGANISM: Artificial Sequence
205 <220> FEATURE:
206 <223> OTHER INFORMATION: Description of Artificial Sequence:designed ZFP

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Input Set : N:\Crf3\RULE60\09942090.raw
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207 construct (from KpnI to BamHI) targeting 9-base
 208 pair target site in VEGF promoter

W--> 209 <221> NAME/KEY: CDS
 210 <222> LOCATION: (2)..(292)

W--> 211 <400> 14

212 g gta ccg ggc aag aag aag cag cac atc tgc cac atc cag ggc tgt ggt	49
213 Val Pro Gly Lys Lys Gln His Ile Cys His Ile Gln Gly Cys Gly	
214 1 5 10 15	
215 aaa gtt tac ggc cgc tcc gac aac ctg acc cgc cac ctg cgc tgg cac	97
216 Lys Val Tyr Gly Arg Ser Asp Asn Leu Thr Arg His Leu Arg Trp His	
217 20 25 30	
218 acc ggc gag agg cct ttc atg tgt aca tgg tcc tac tgt ggt aaa cgc	145
219 Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly Lys Arg	
220 35 40 45	
221 ttc acc aac cgc gac acc ctg gcc cgc cac aag cgt acc cac acc ggt	193
222 Phe Thr Asn Arg Asp Thr Leu Ala Arg His Lys Arg Thr His Thr Gly	
223 50 55 60	
224 gag aag aaa ttt gct tgt ccg gaa tgt ccg aag cgc ttc atg cgc tcc	241
225 Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met Arg Ser	
226 65 70 75 80	
227 gac cac ctg tcc aag cac atc aag acc cac cag aac aag aag ggt gga	289
228 Asp His Leu Ser Lys His Ile Lys Thr His Gln Asn Lys Lys Gly Gly	
229 85 90 95	
230 tcc	292
231 Ser	
233 <210> SEQ ID NO: 15	
234 <211> LENGTH: 97	
235 <212> TYPE: PRT	
236 <213> ORGANISM: Artificial Sequence	
237 <220> FEATURE:	
238 <223> OTHER INFORMATION: Description of Artificial Sequence:designed ZFP	
239 <400> SEQUENCE: 15	
240 Val Pro Gly Lys Lys Gln His Ile Cys His Ile Gln Gly Cys Gly	
241 1 5 10 15	
242 Lys Val Tyr Gly Arg Ser Asp Asn Leu Thr Arg His Leu Arg Trp His	
243 20 25 30	
244 Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly Lys Arg	
245 35 40 45	
246 Phe Thr Asn Arg Asp Thr Leu Ala Arg His Lys Arg Thr His Thr Gly	
247 50 55 60	
248 Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met Arg Ser	
249 65 70 75 80	
250 Asp His Leu Ser Lys His Ile Lys Thr His Gln Asn Lys Lys Gly Gly	
251 85 90 95	
252 Ser	
254 <210> SEQ ID NO: 16	
255 <211> LENGTH: 25	
256 <212> TYPE: DNA	
257 <213> ORGANISM: Artificial Sequence	

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 04/26/2002
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Input Set : N:\CrF3\RULE60\09942090.raw
Output Set: N:\CRF3\04262002\I942090.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 2,3,4,5,7,8,9,10,11,12,13,14,15,16,17,18,20,21,22,23,24

Seq#:2; N Pos. 1,2,5,8,9,10

Seq#:3; N Pos. 1,2,5,8

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/942,090

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Input Set : N:\Crf3\RULE60\09942090.raw
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L:26 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:29 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:1
L:32 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:1
L:35 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:1
L:38 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:1
L:41 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:1
L:42 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:44 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:16
L:54 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:57 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:2
L:60 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:2
L:63 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:2
L:67 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:2
L:68 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:77 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:80 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:3
L:83 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:3
L:86 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:3
L:87 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:209 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:211 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:14